MITER- A tool to optimize rf parameters in ring coolers

Rajendran Raja

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Name changed from OPTIM due to conflict with another product.

MITER

- Separate program that calls Geant.
- Has interface to MINUIT
- Present algorithm
- Remove all absorbers.
- Acquire times at which on momentum particle crosses all rf volumes (16x4)
- Start particle at beginning of quadrant and track one turn
- Work out rf frequency for a harmonic number =28
- Replace main absorbers. No wedges.
- Iterate One Turn with no straggling or multiple scattering or decay.
- Re-work out the times.
- Re calculate RF gradient such that loss per absorber = gain / quadrant.
- Re work out the rf frequency. Iterate 30 times till convergence.
- RF entry at –15 degrees and exit at ~ 75degrees. Sin Wave.

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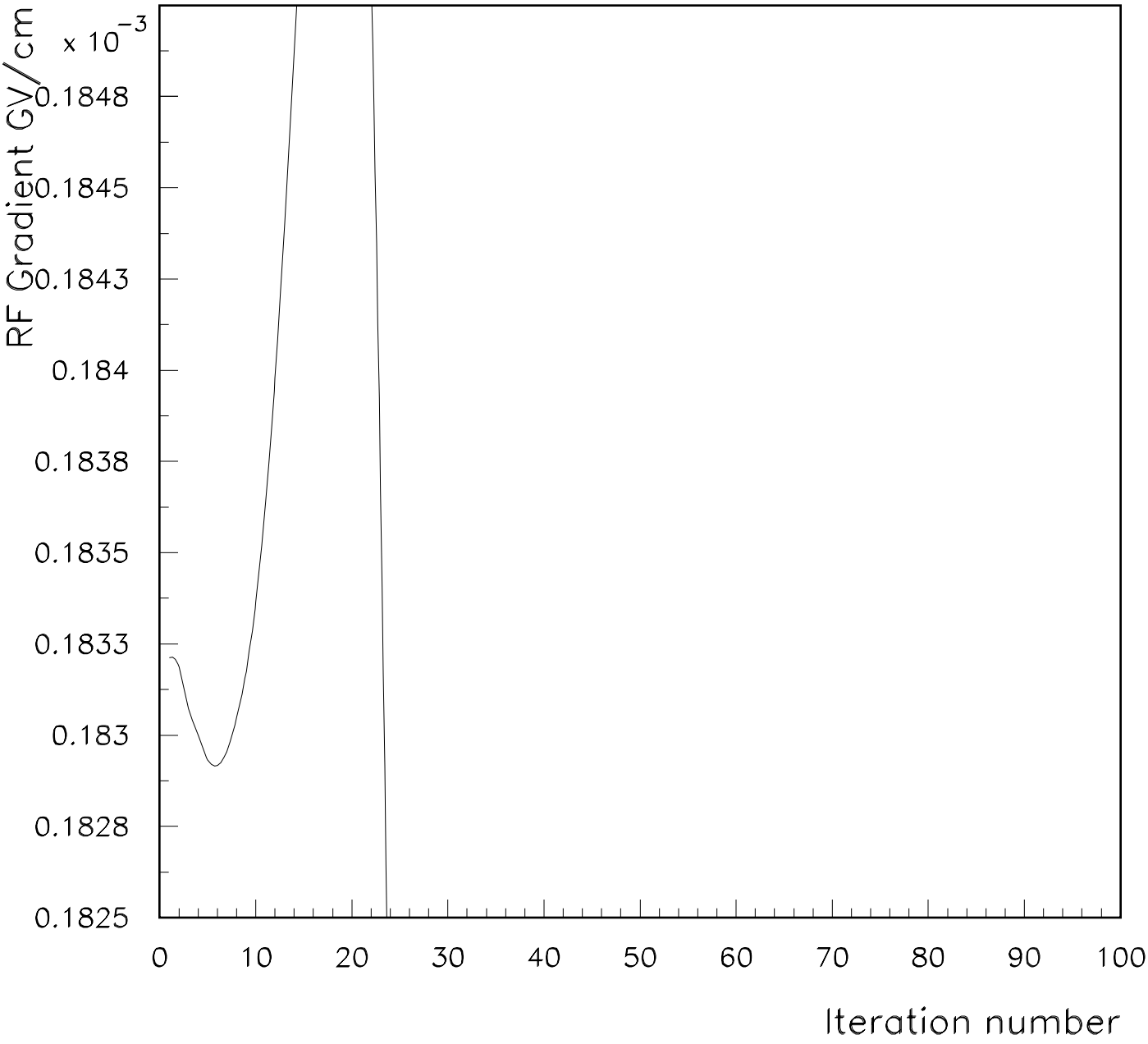

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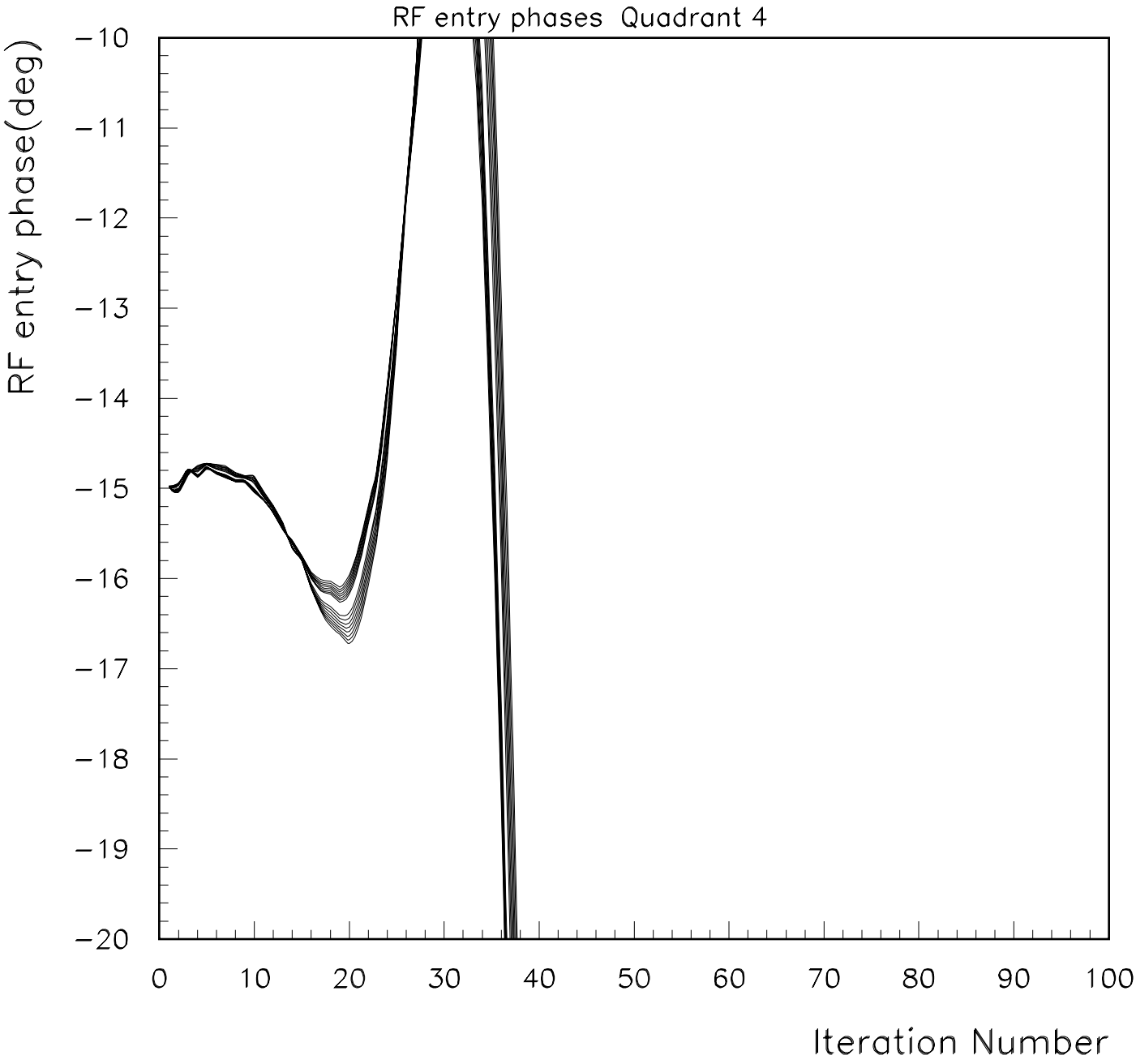

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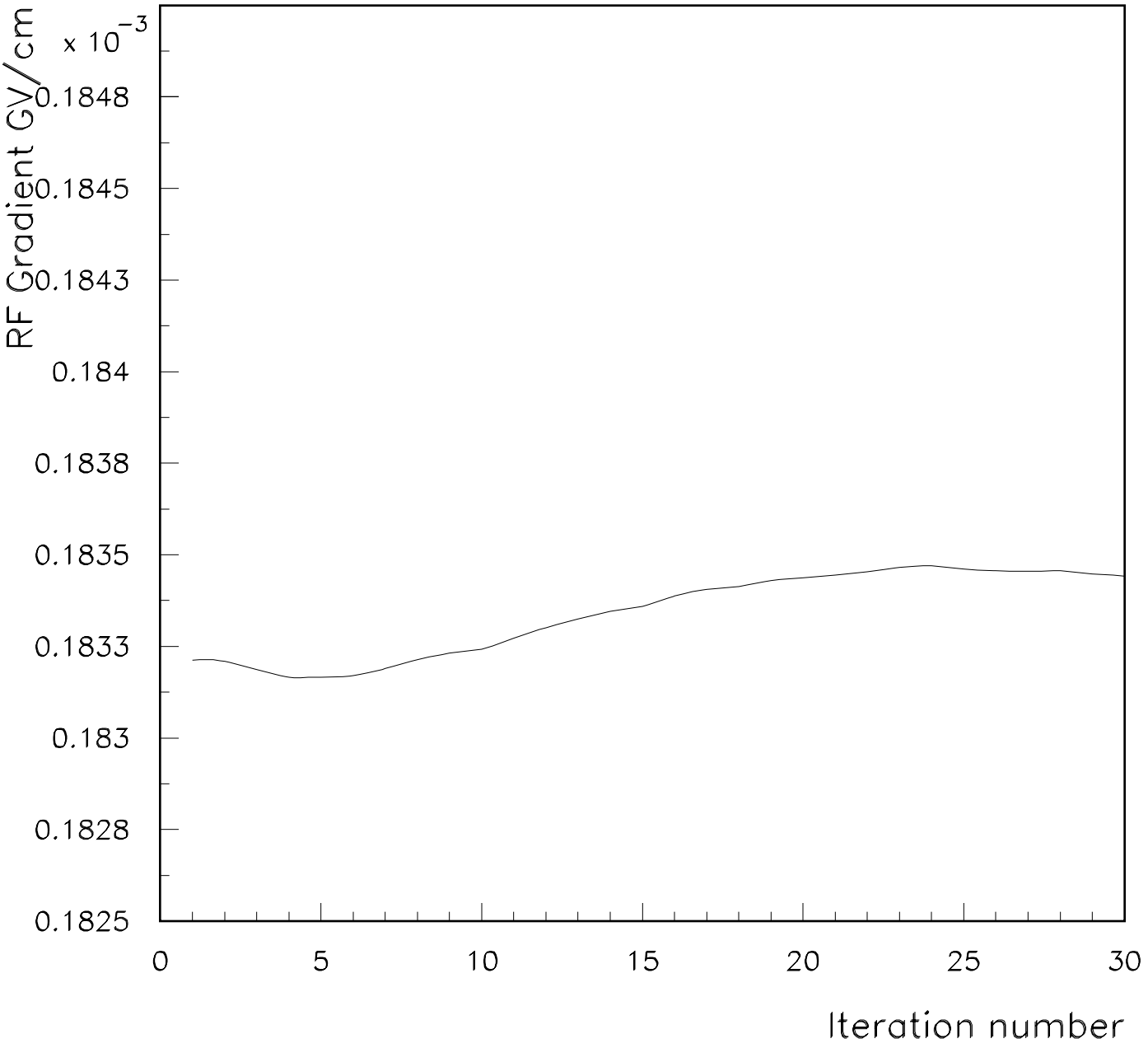

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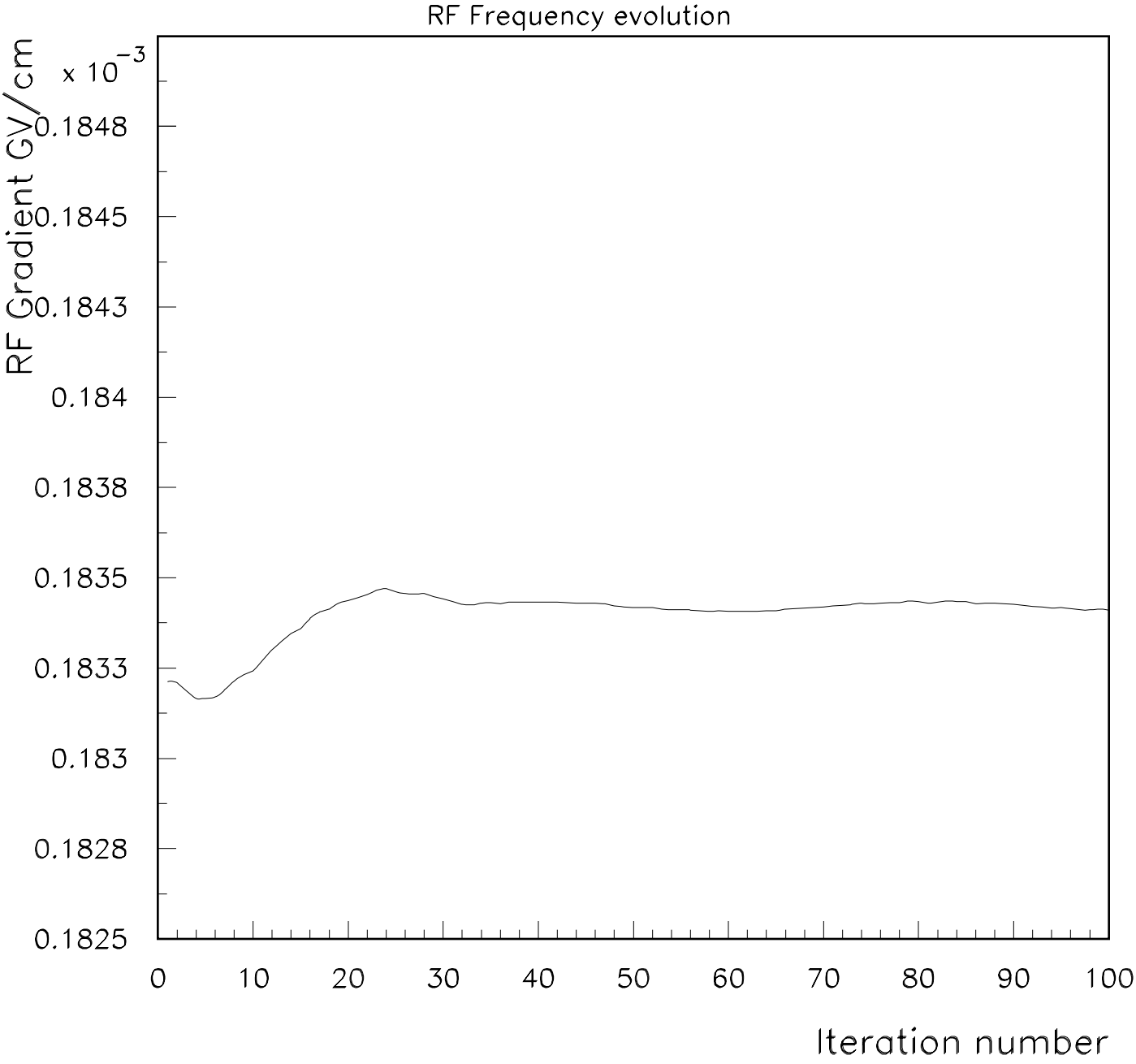

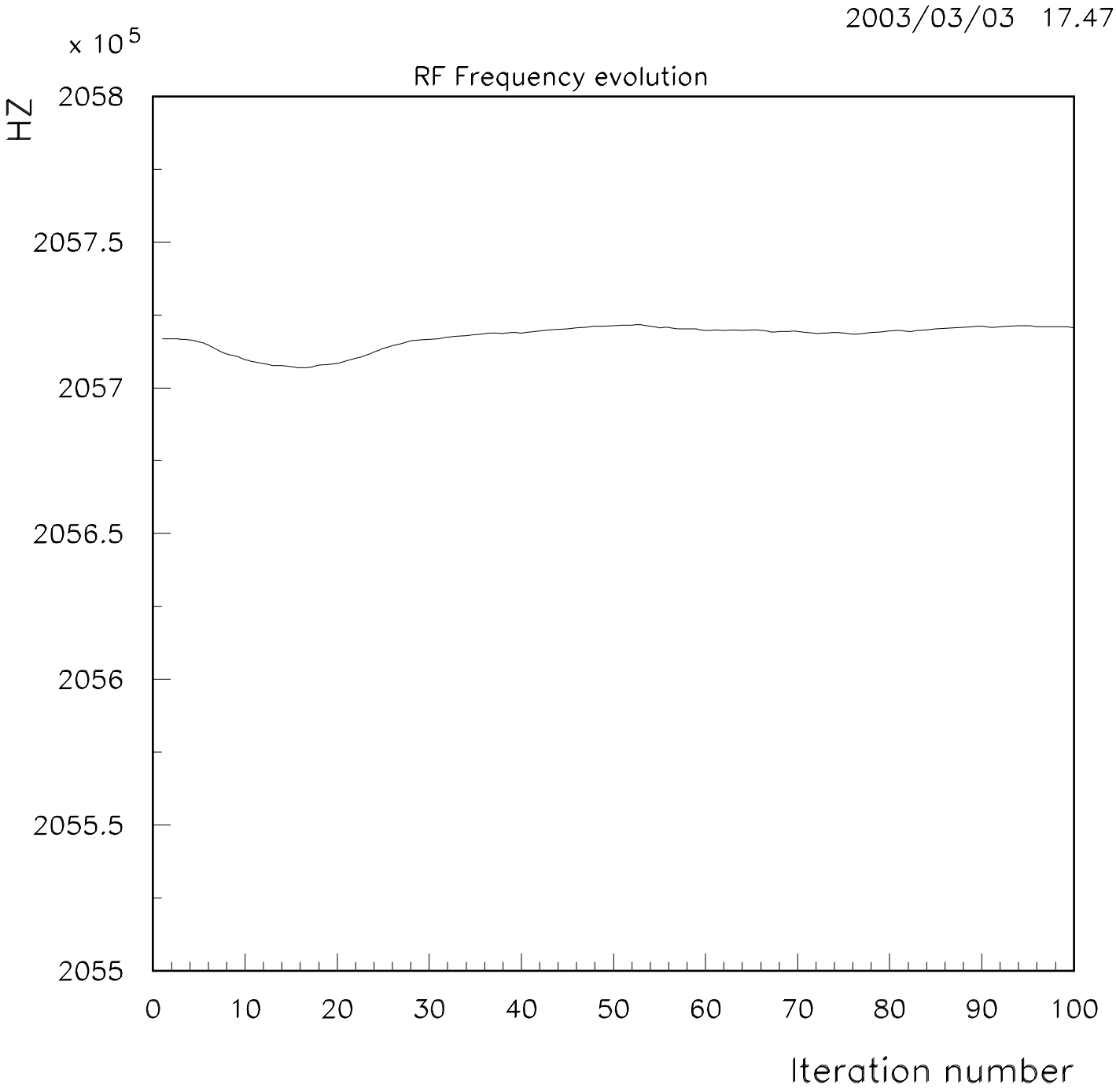
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x 10^5
RF Frequency evolution
HZ
2058
2057.5
2057
2056.5
2056
2055.5
2055
0
10
20
30
40
50
60
70
80
90
100
Iteration number

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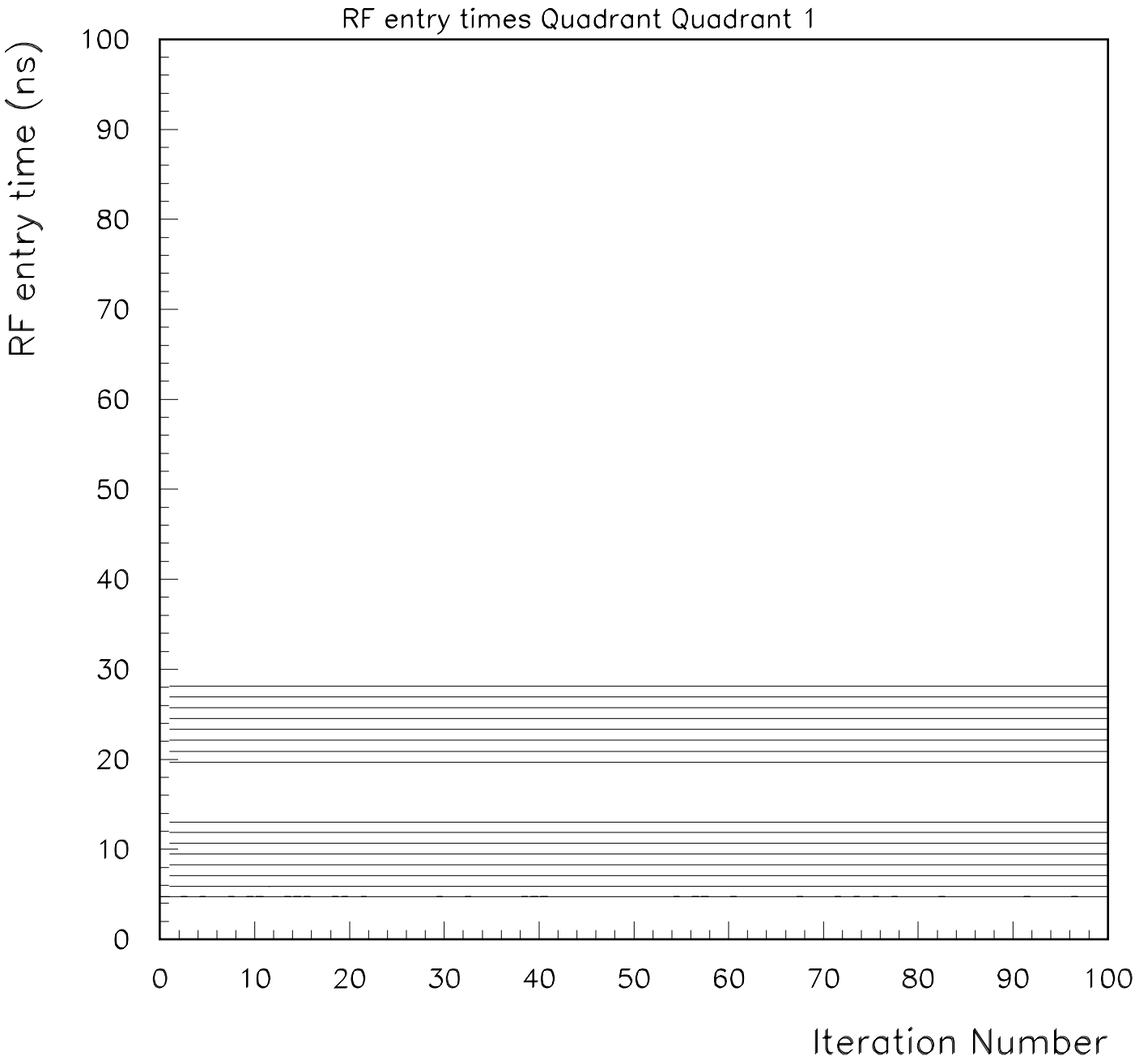

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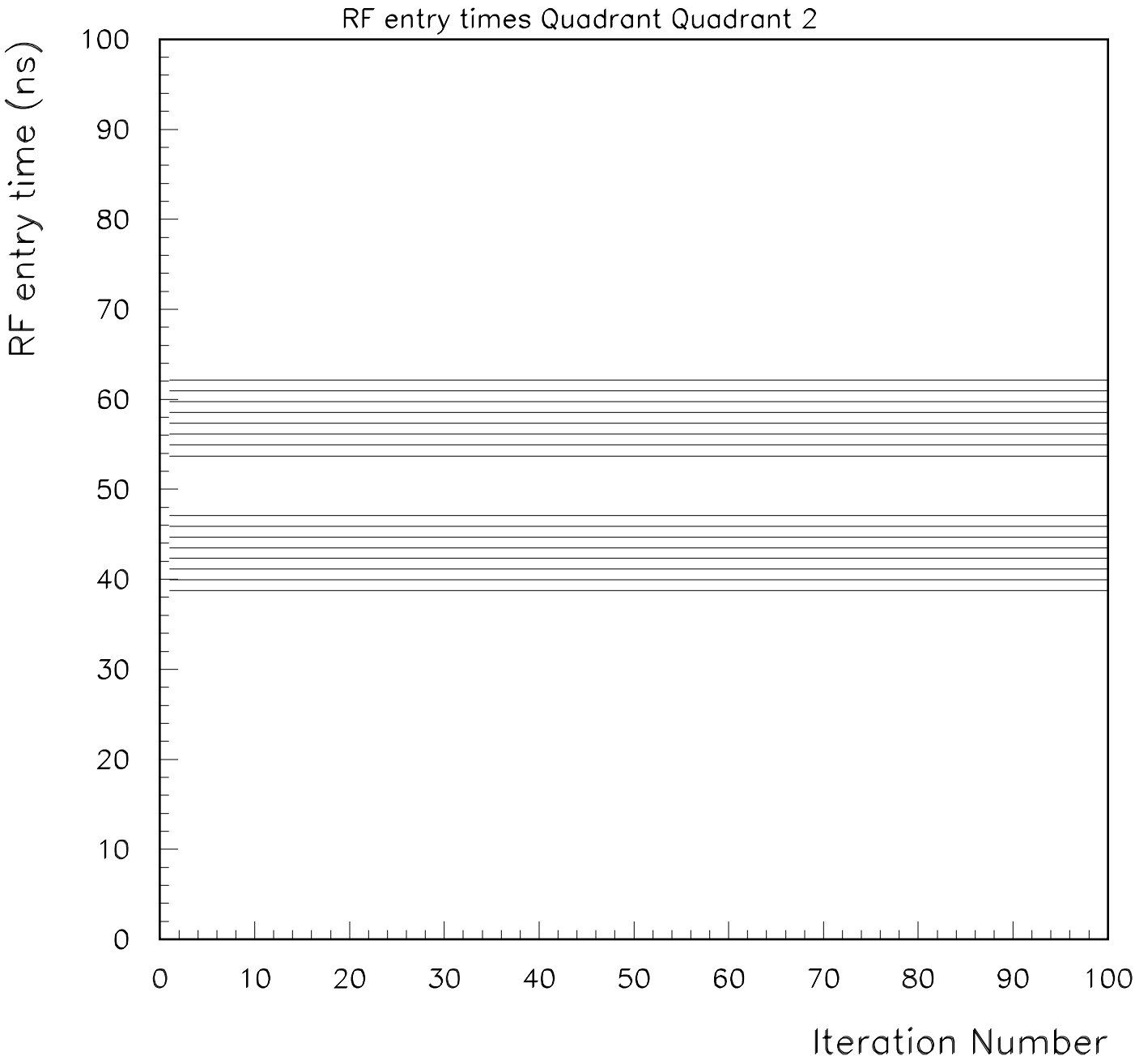

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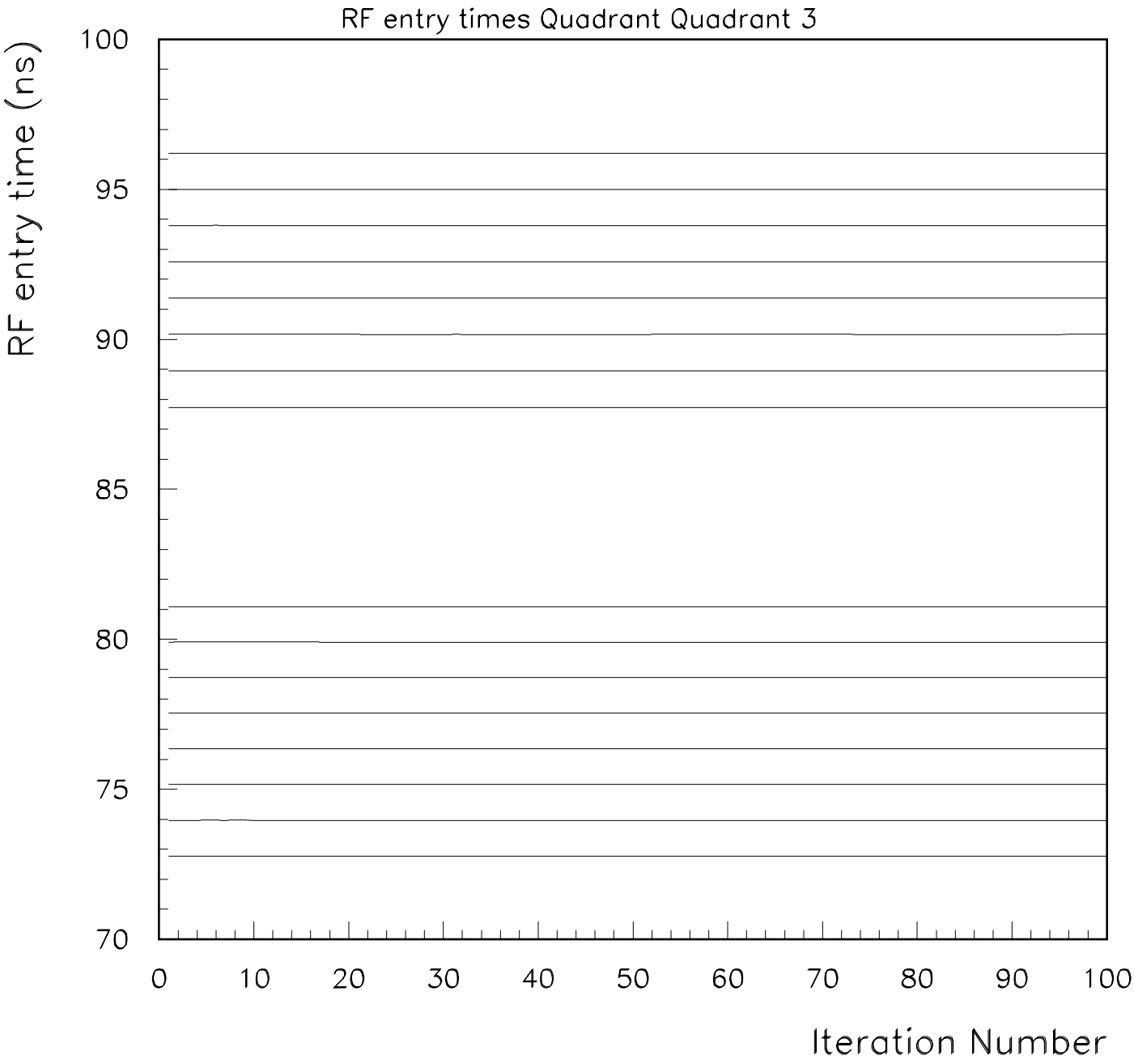

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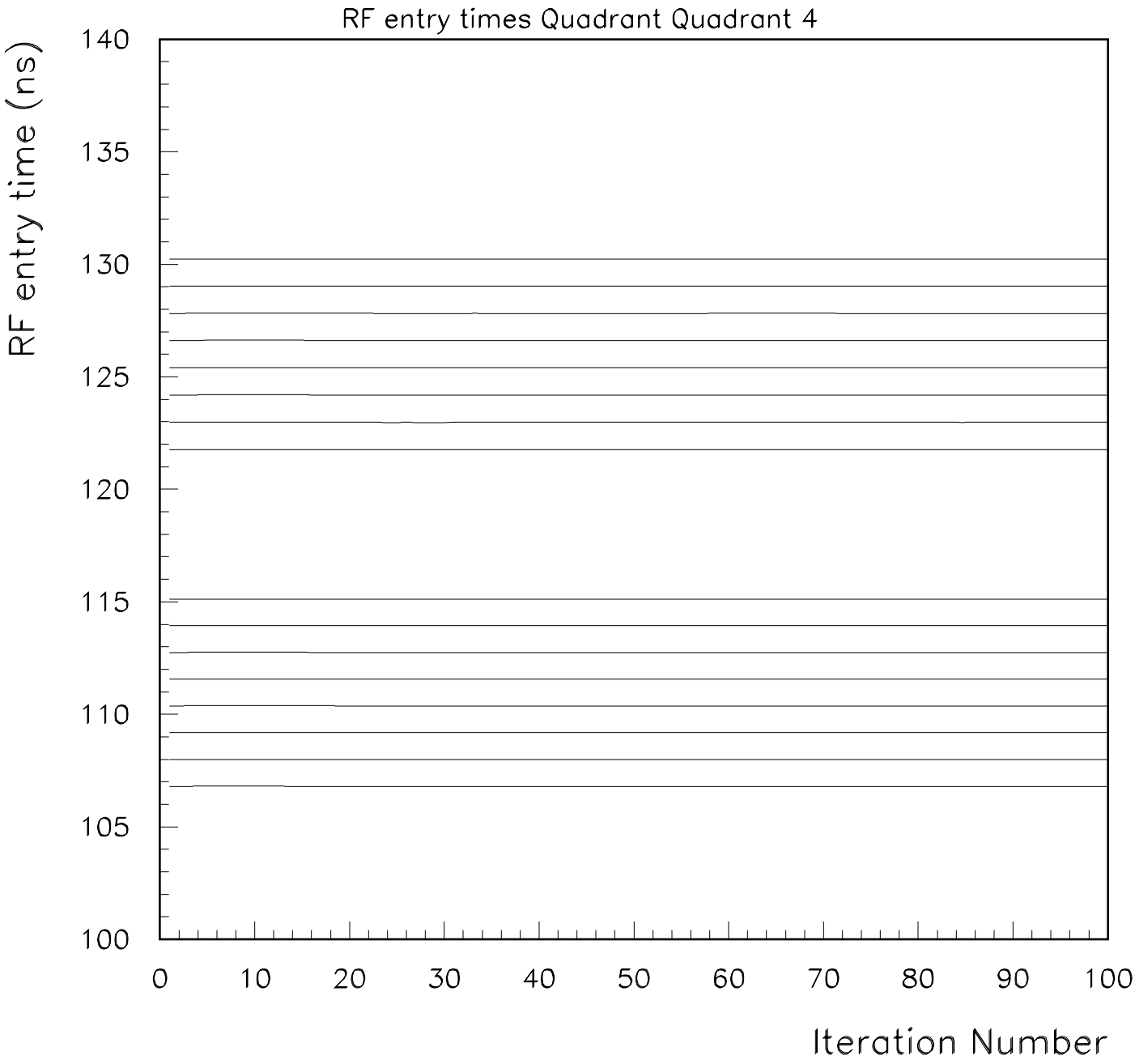

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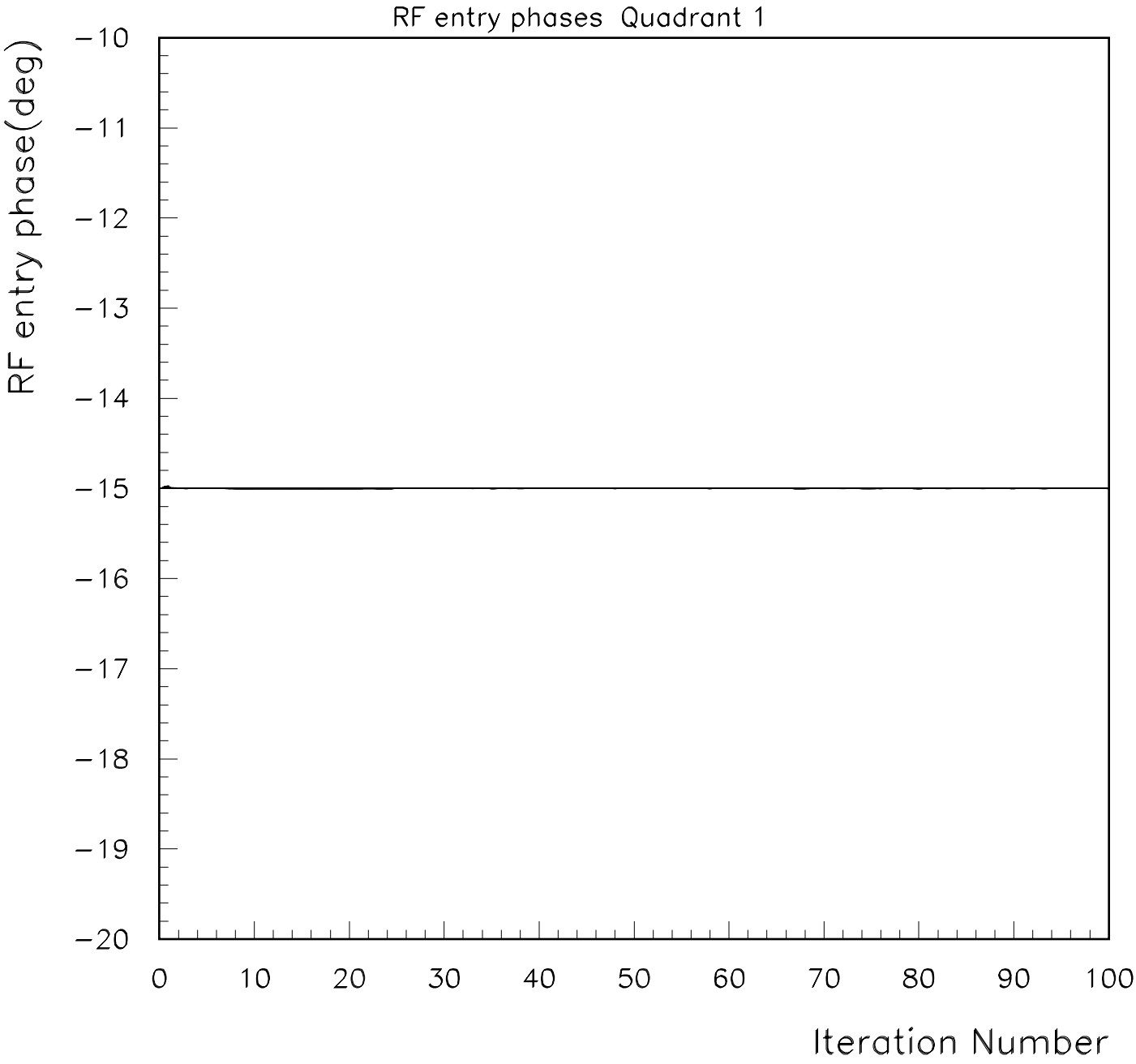

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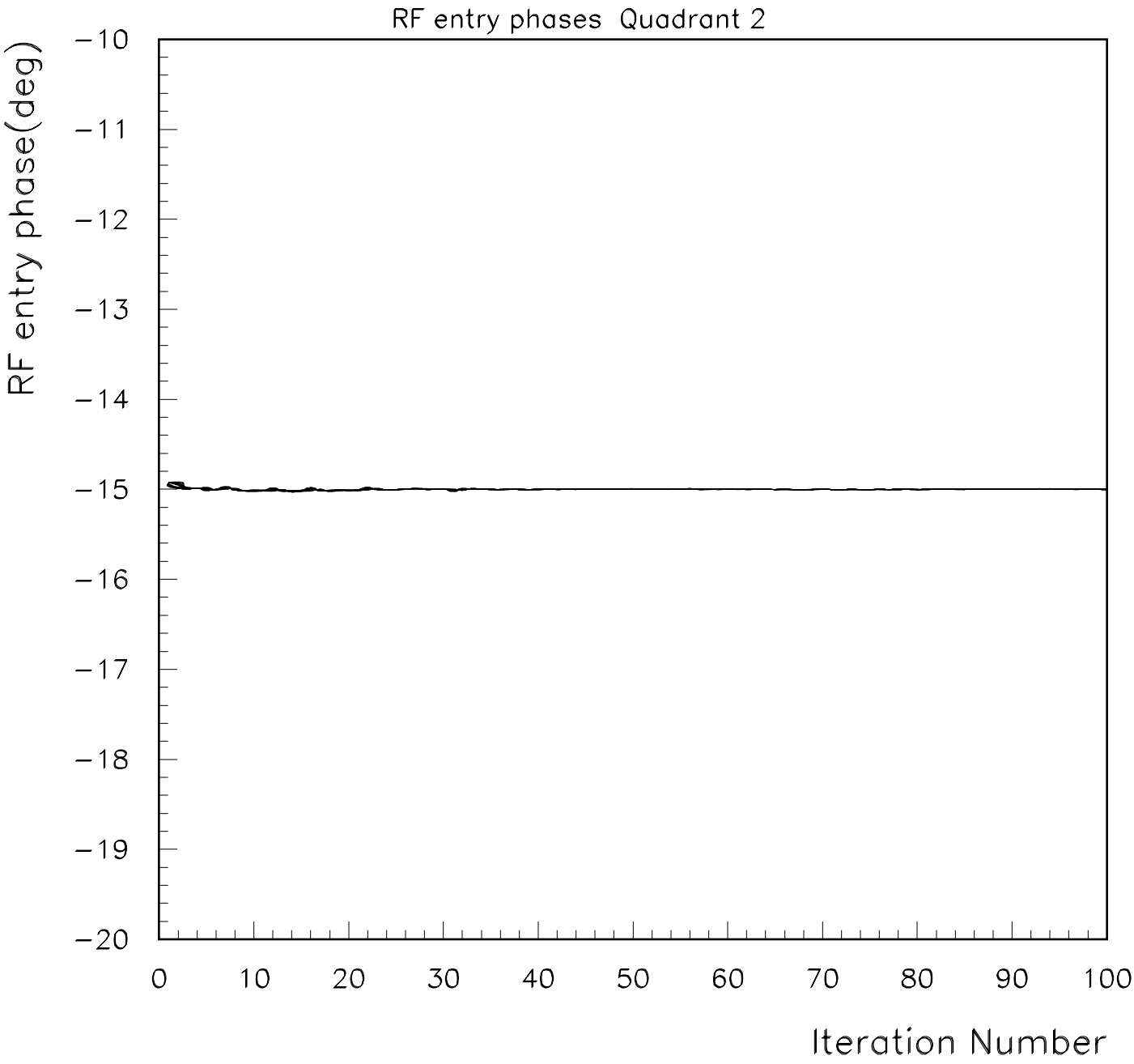

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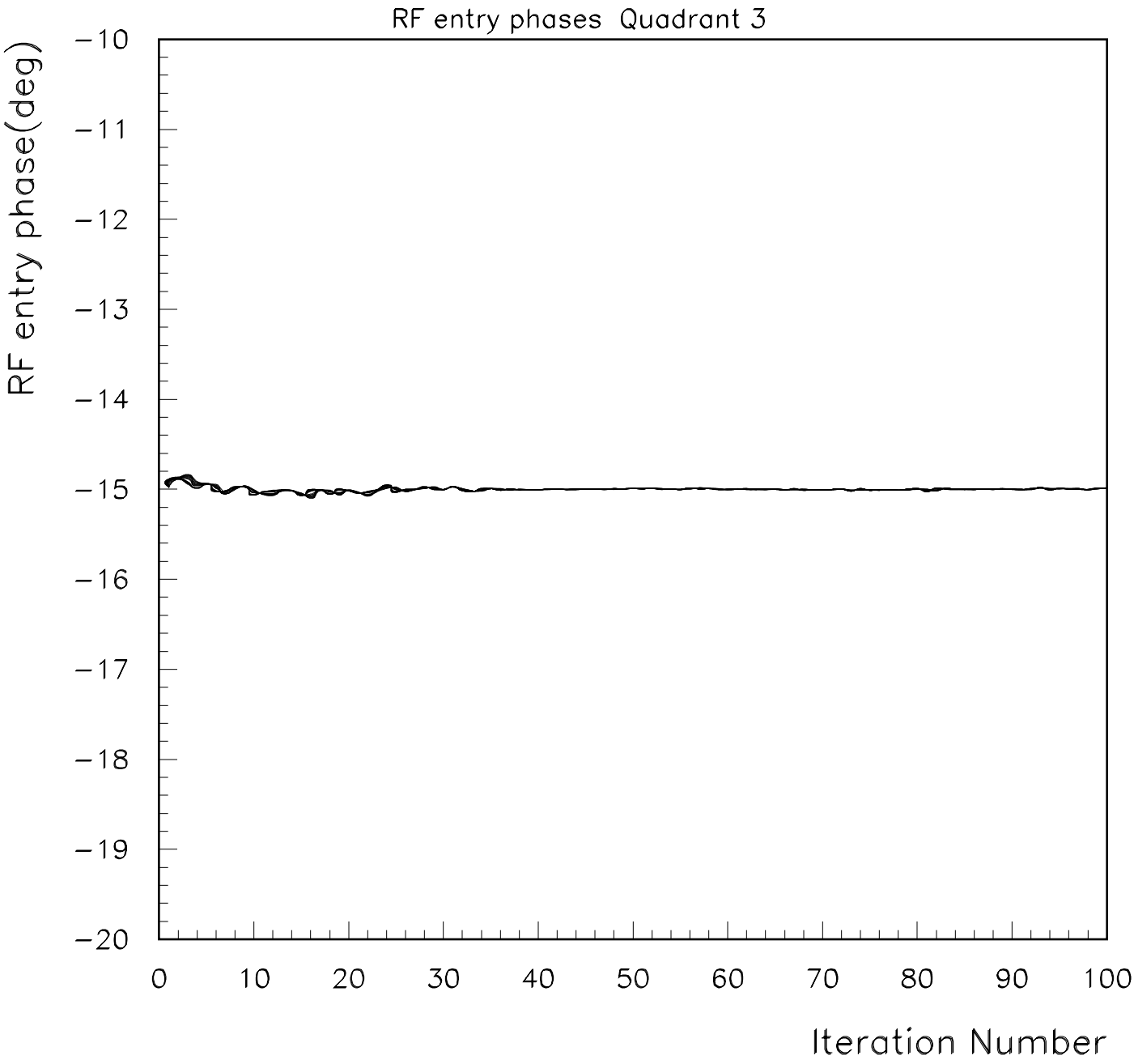

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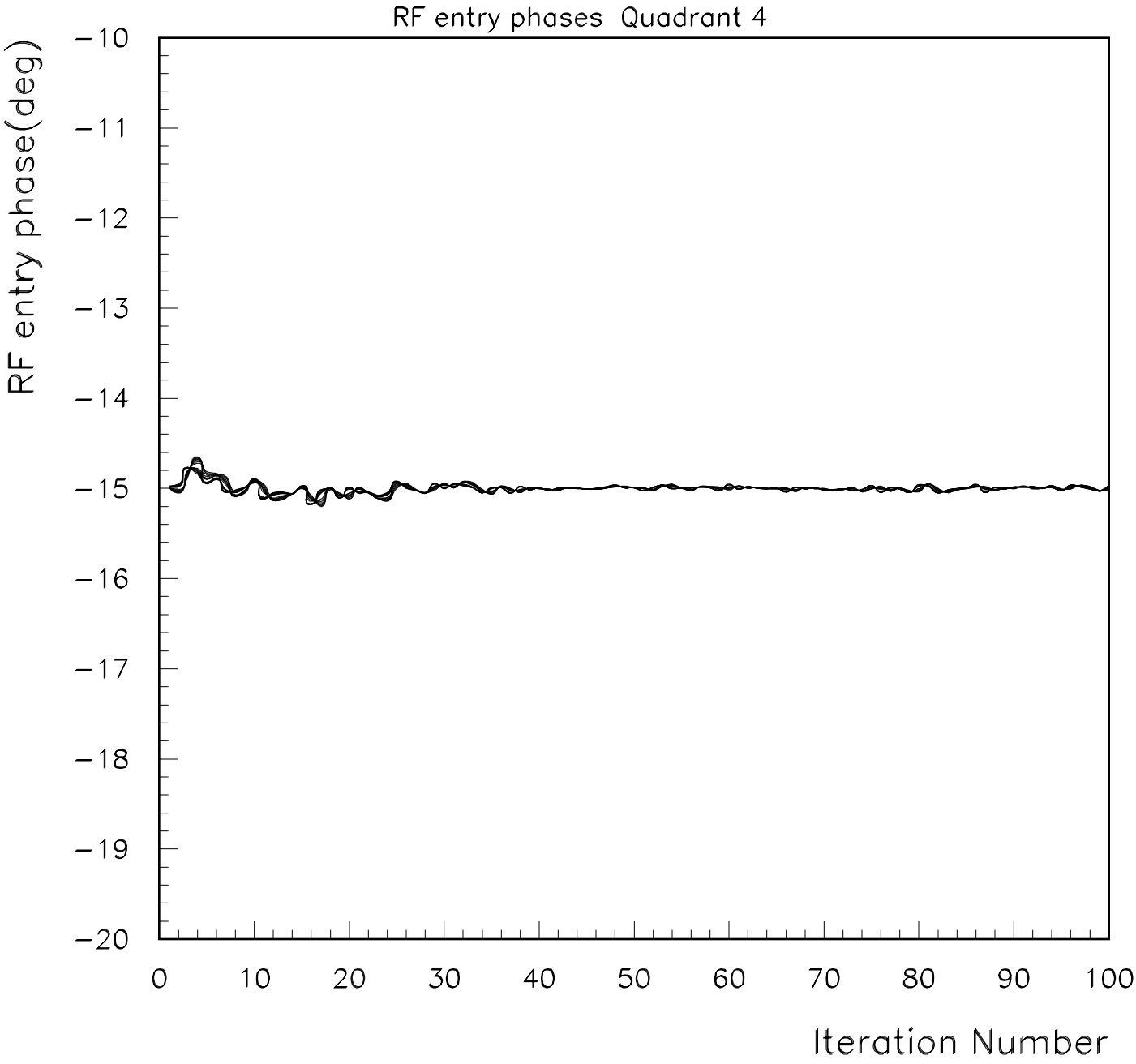

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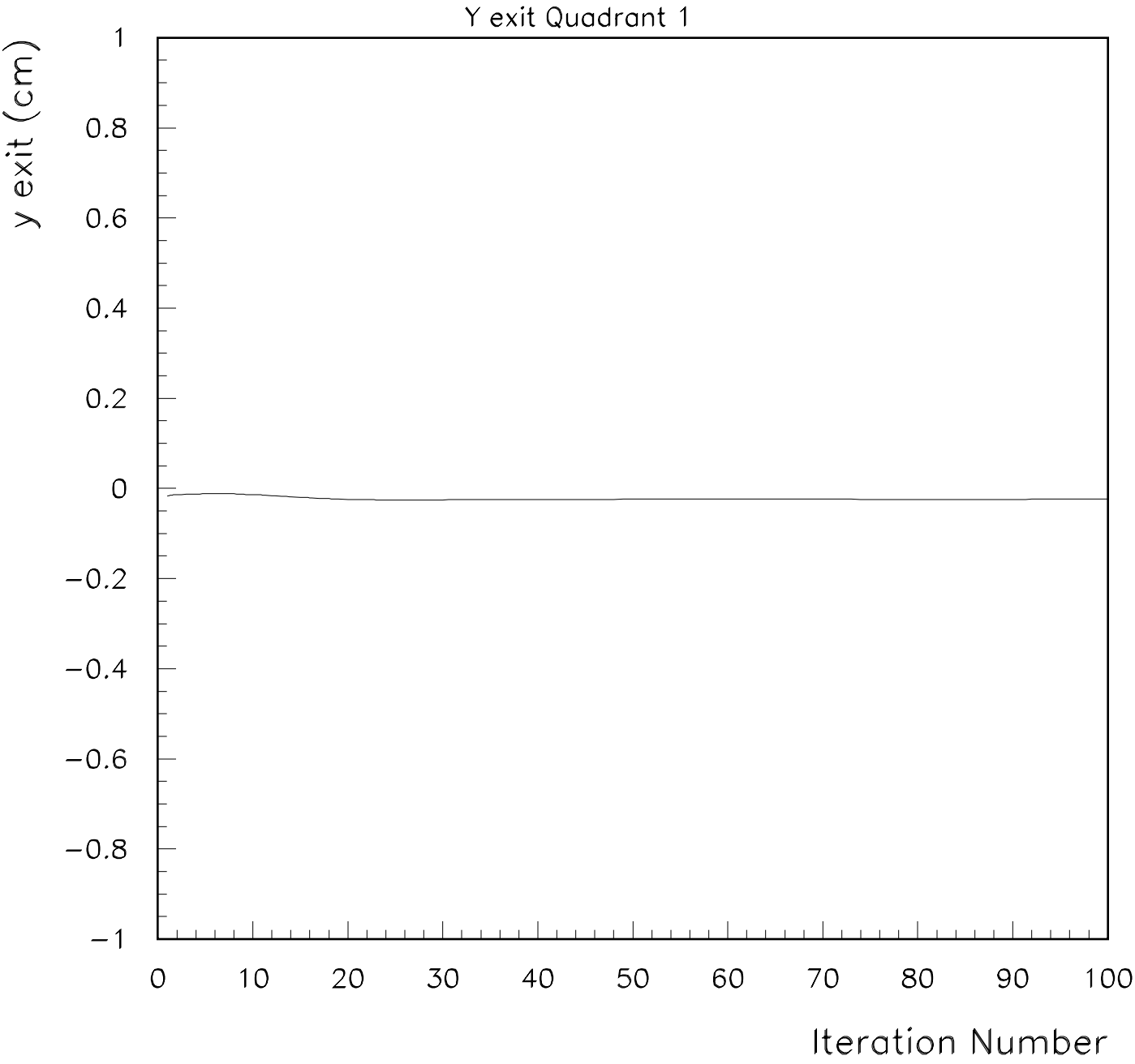

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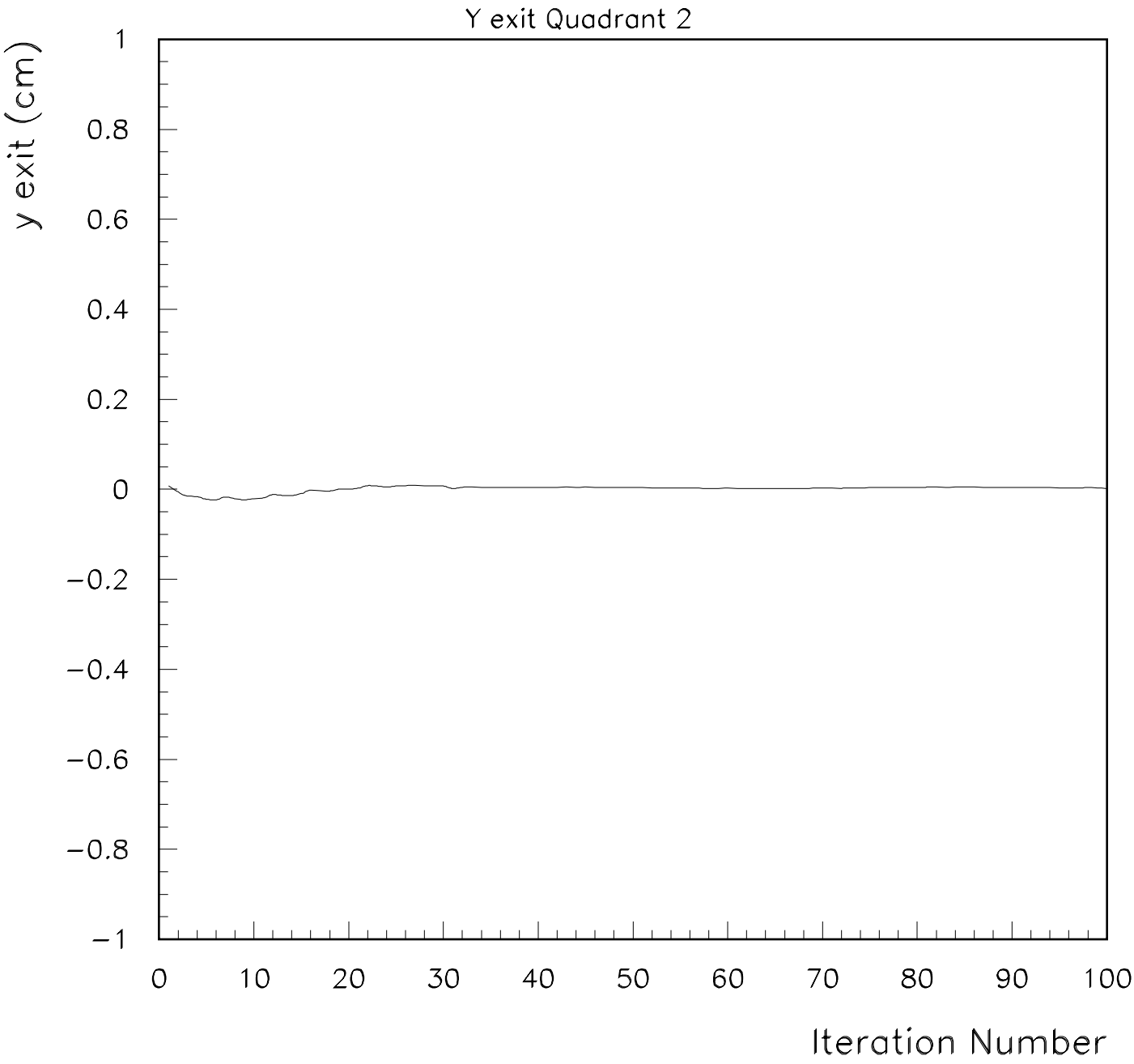

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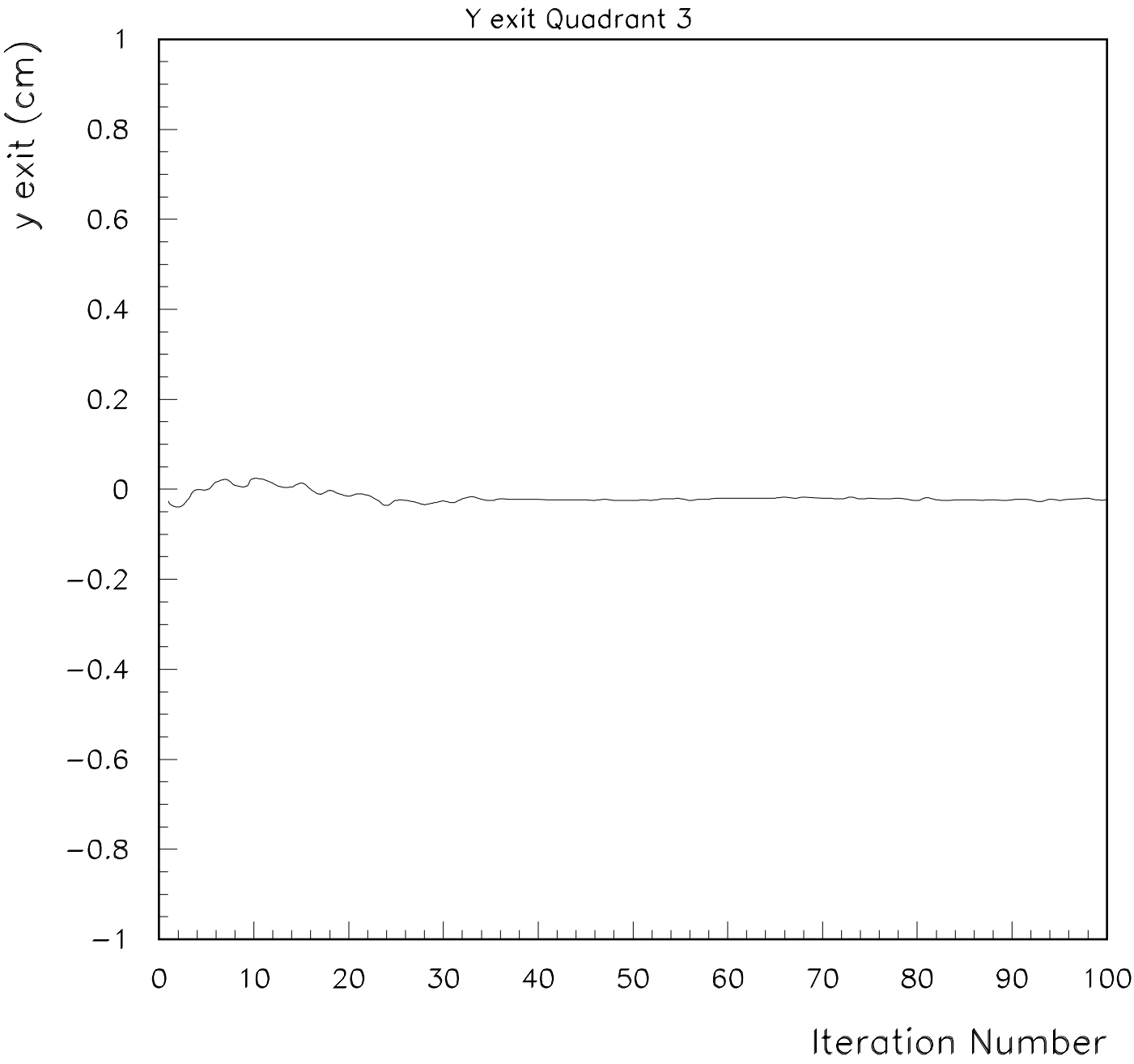

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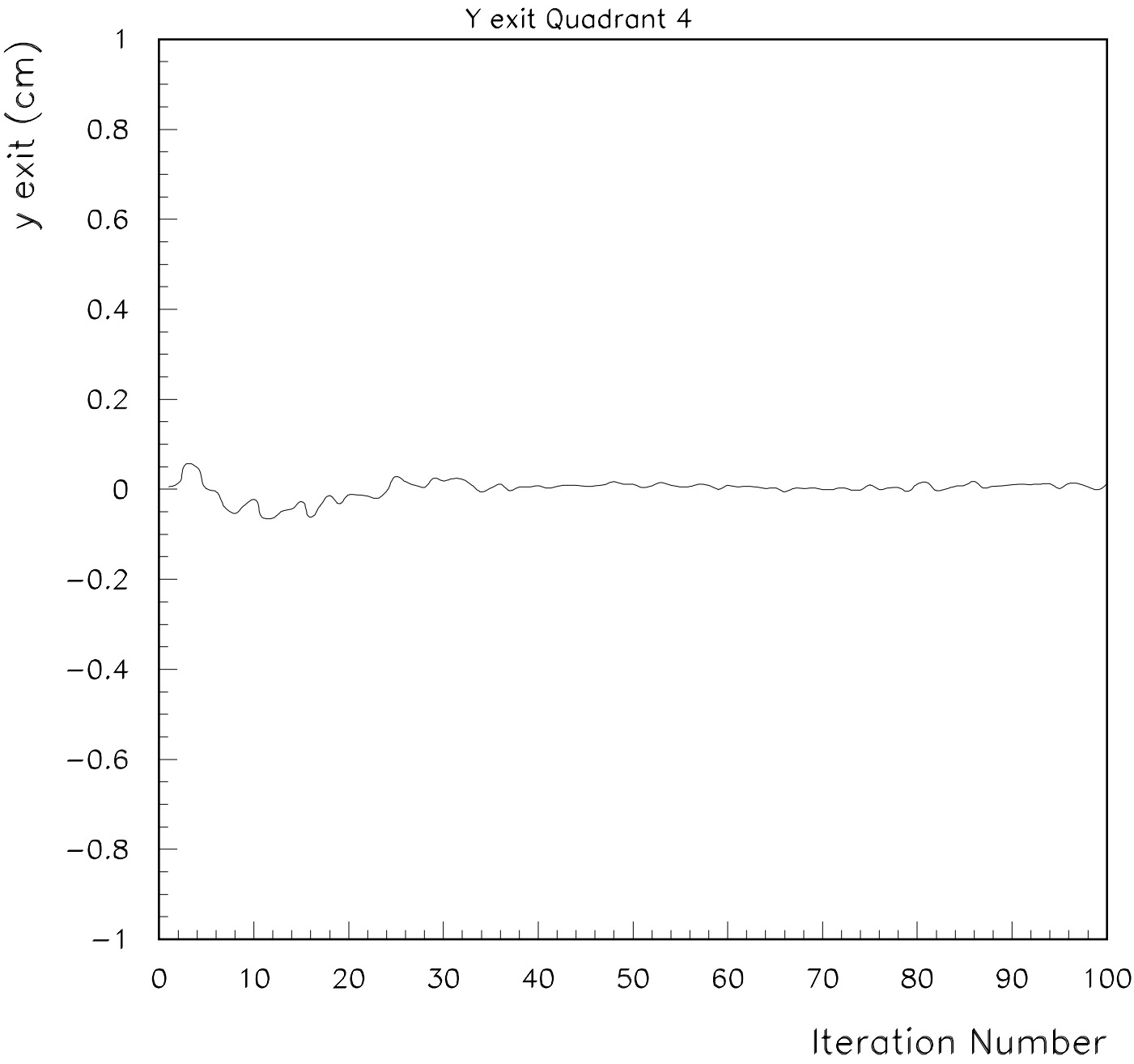

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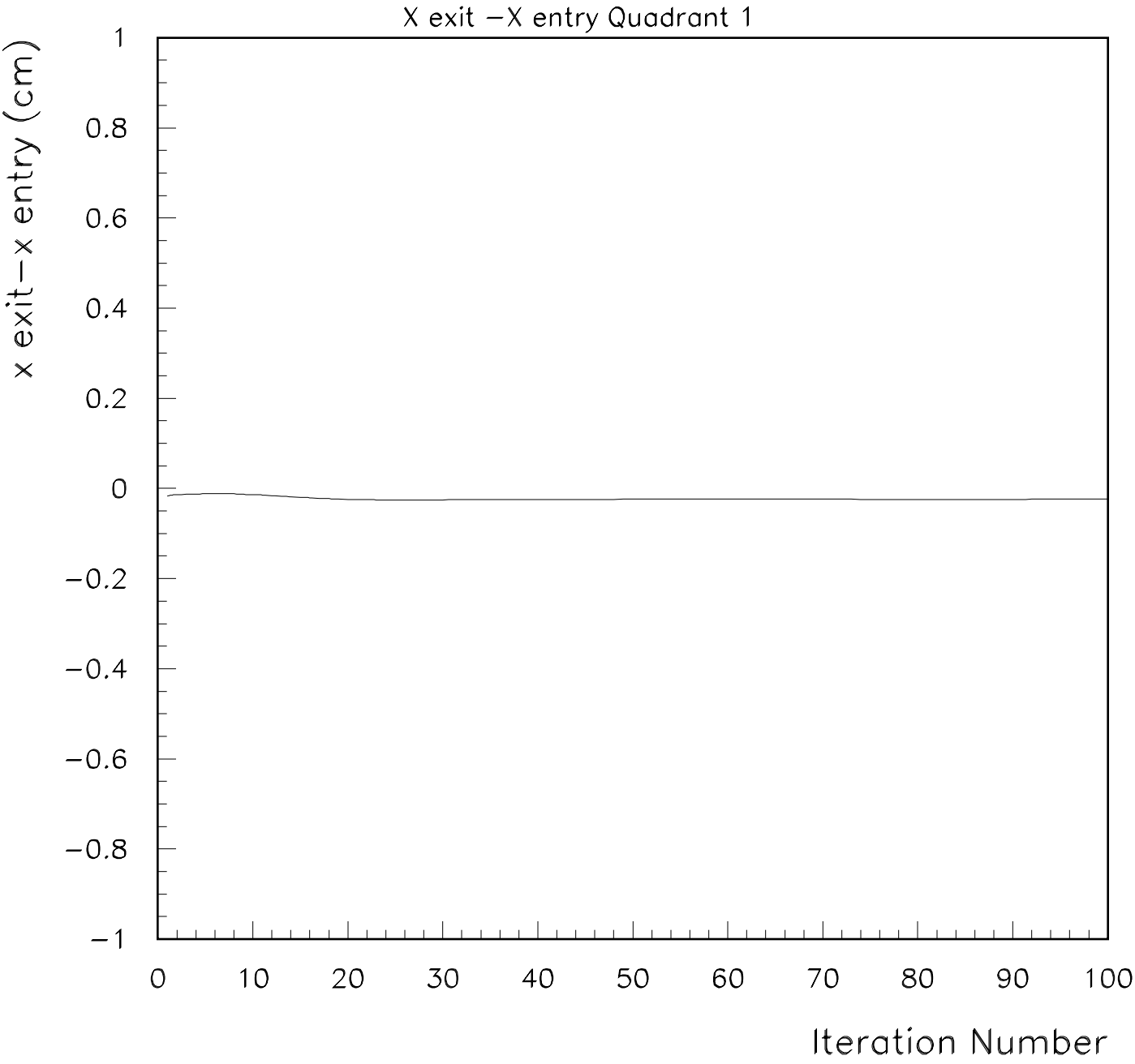

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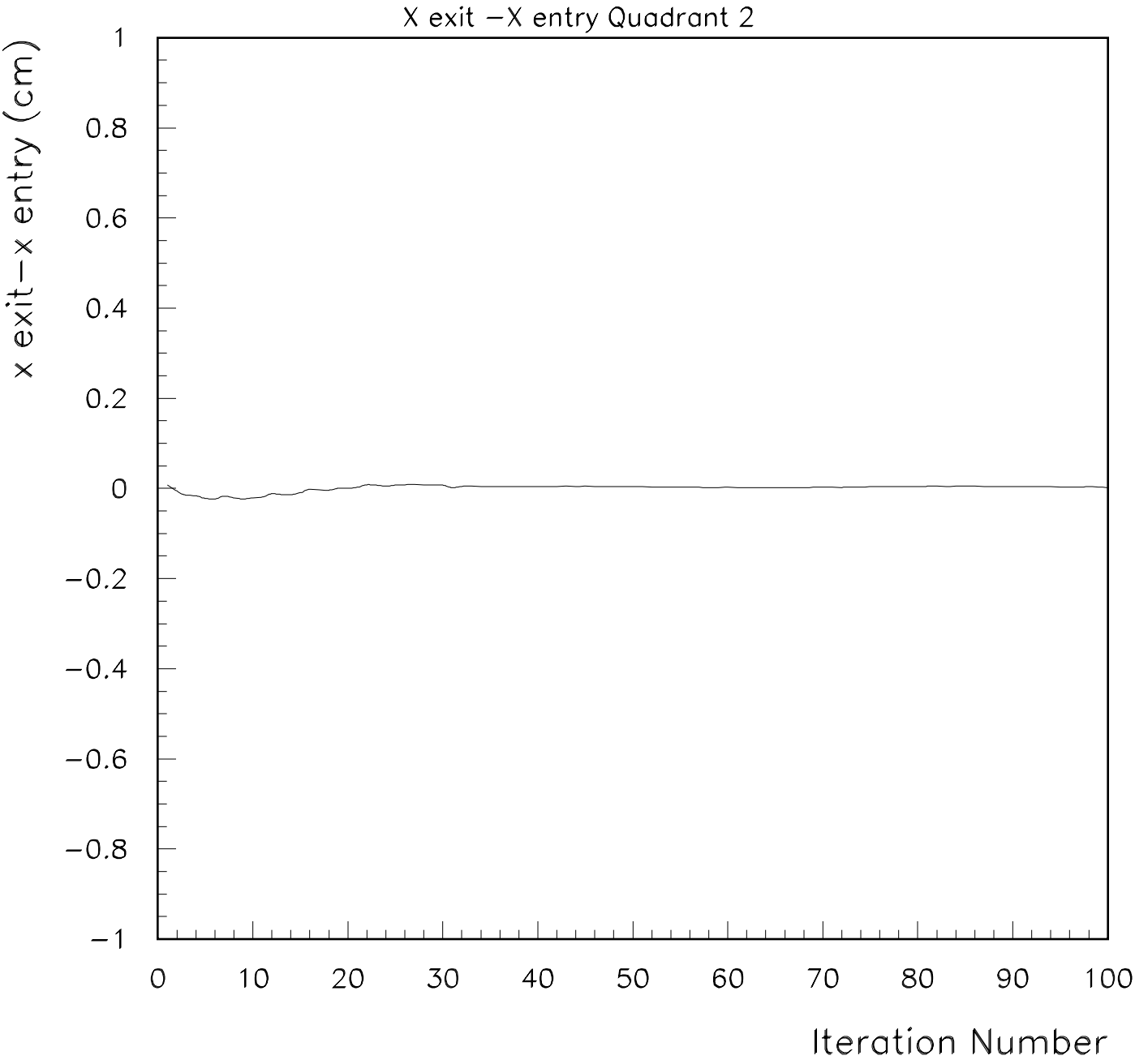

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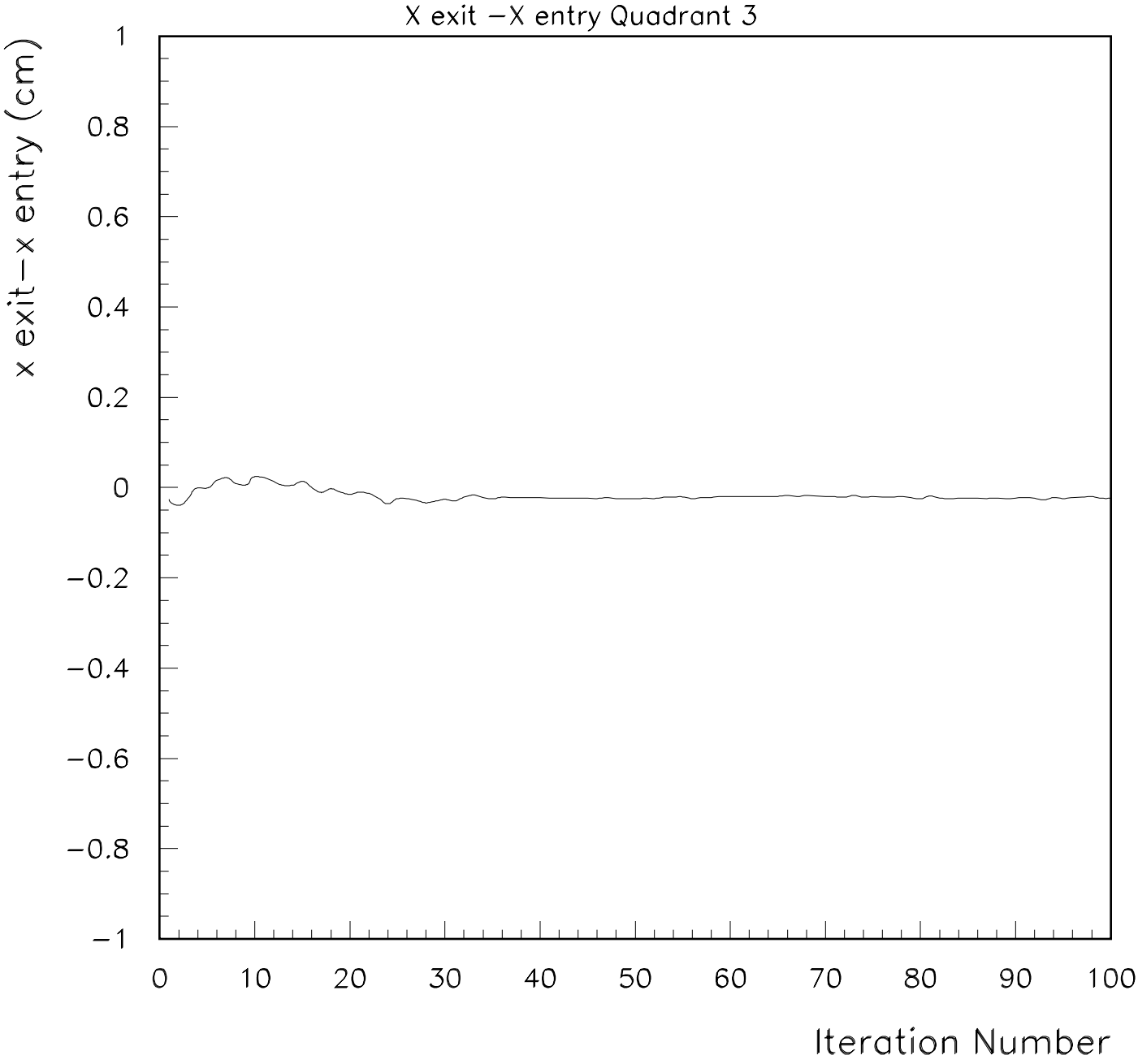

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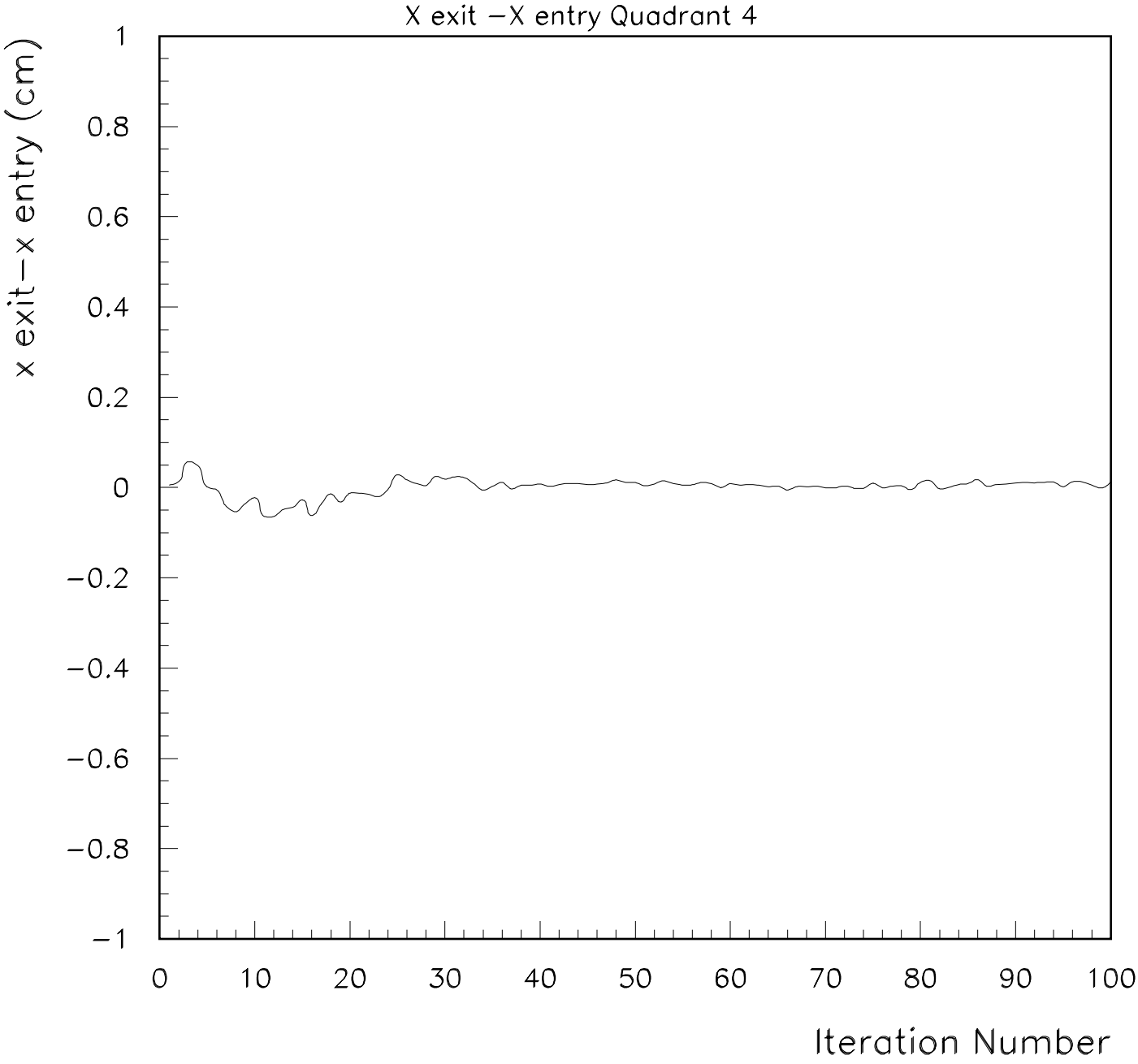

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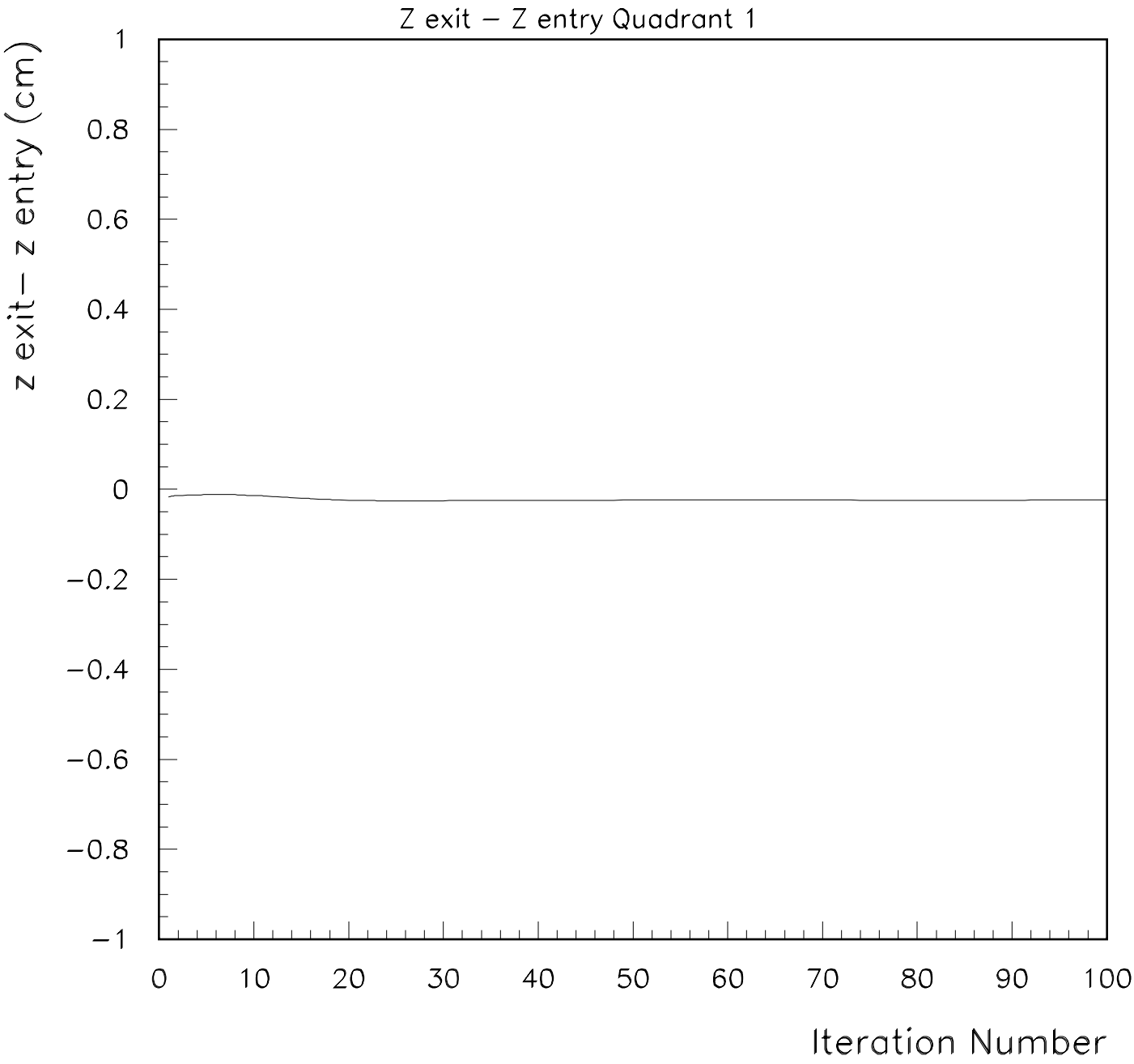

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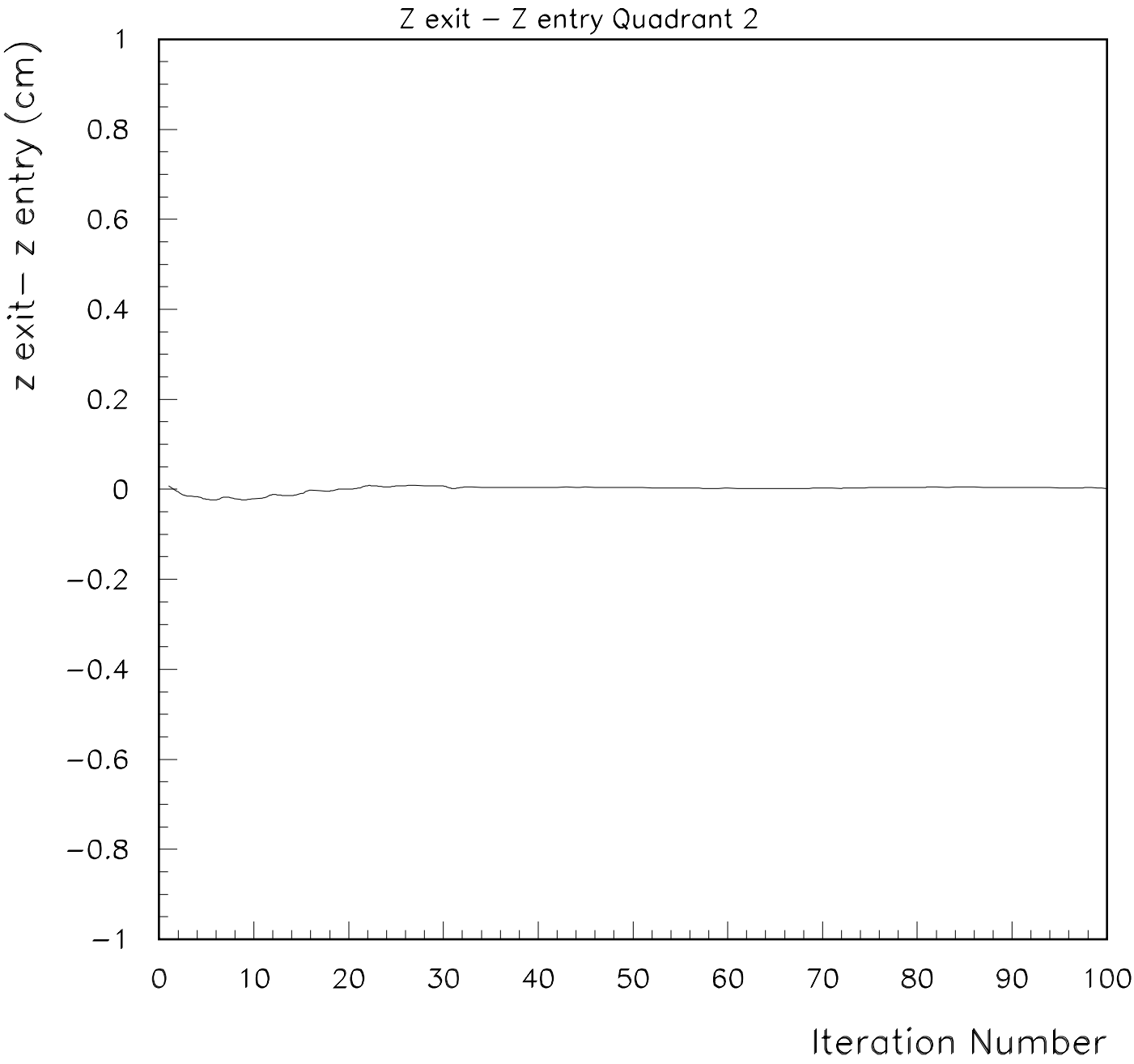

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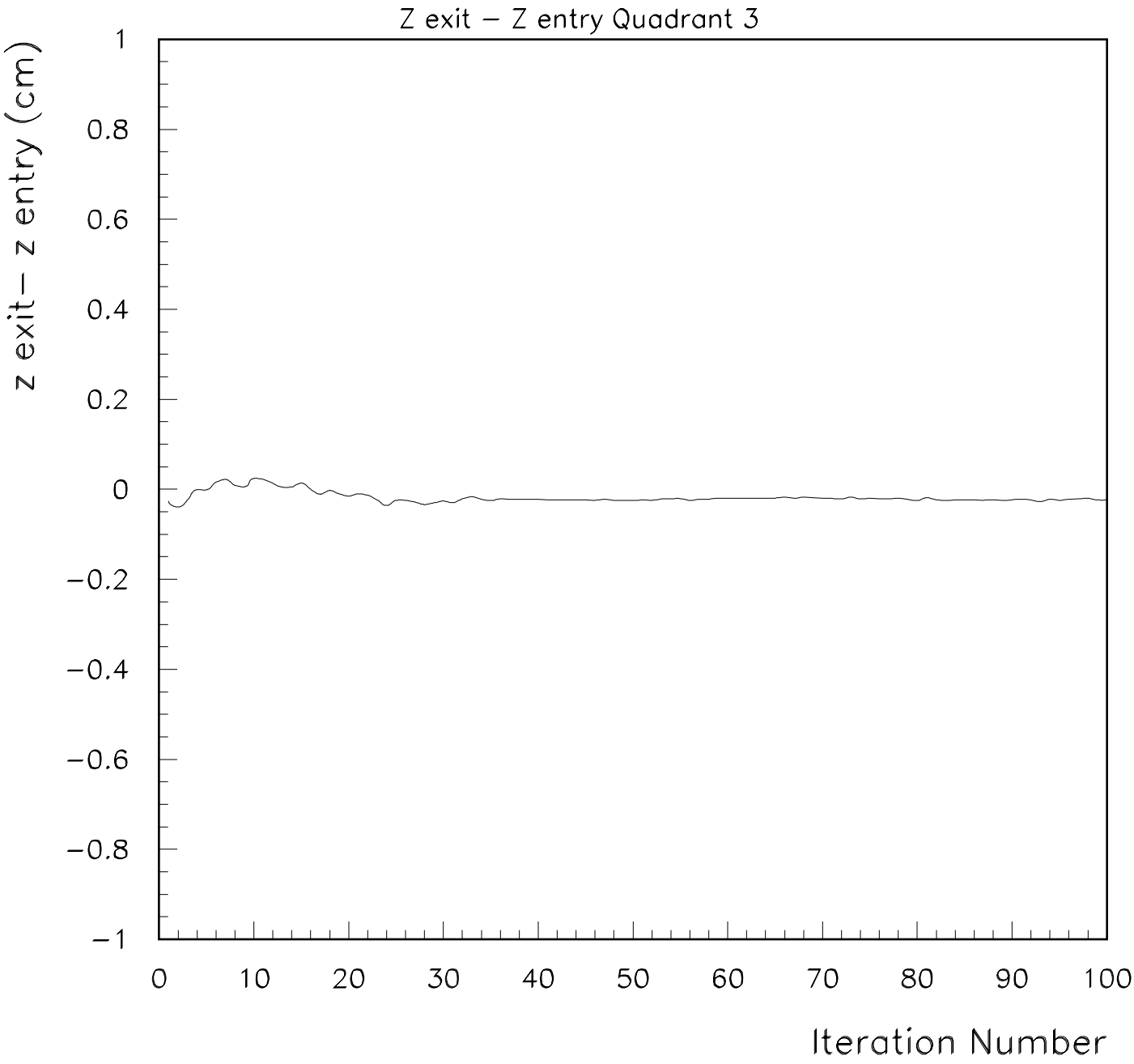

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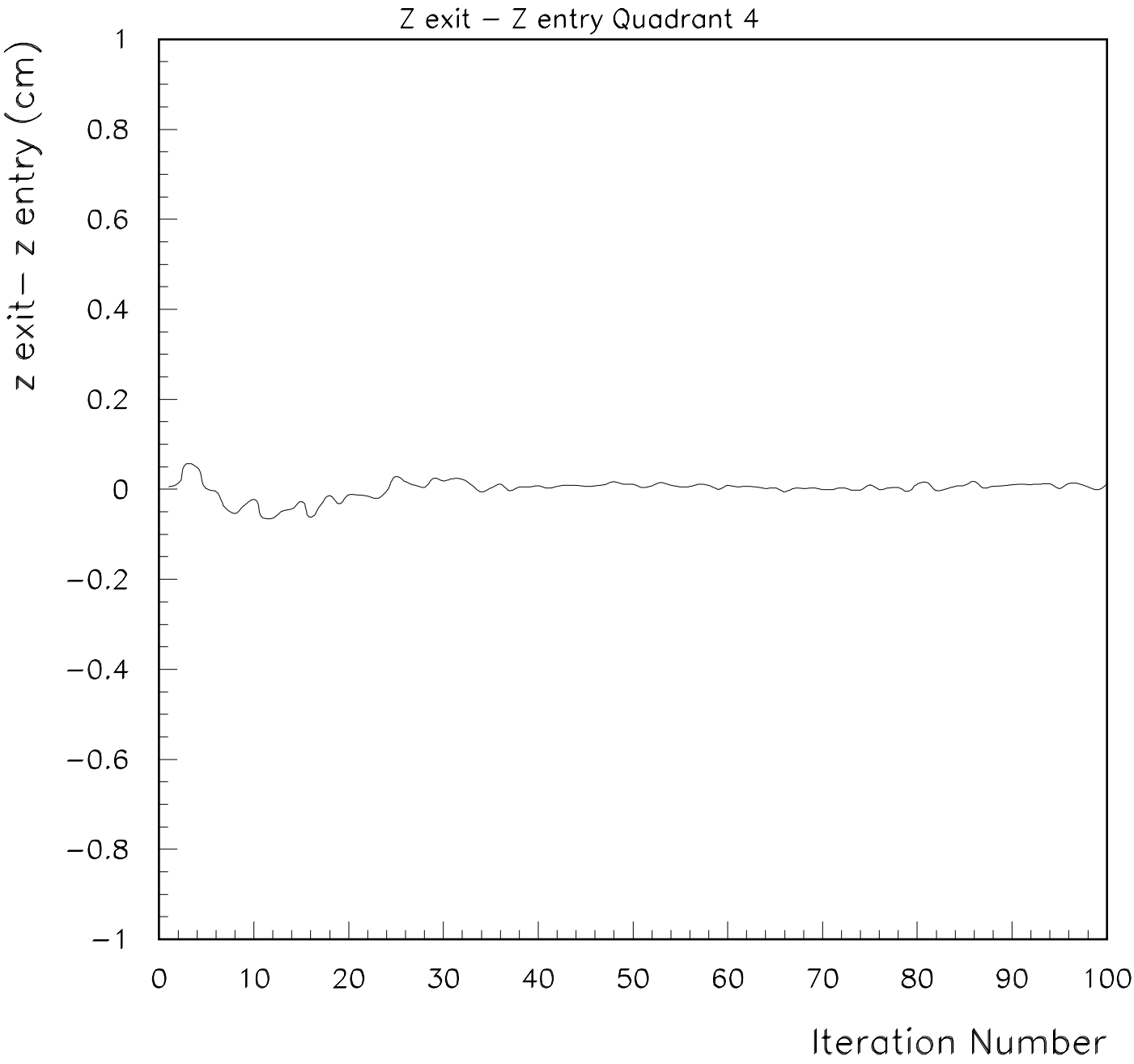

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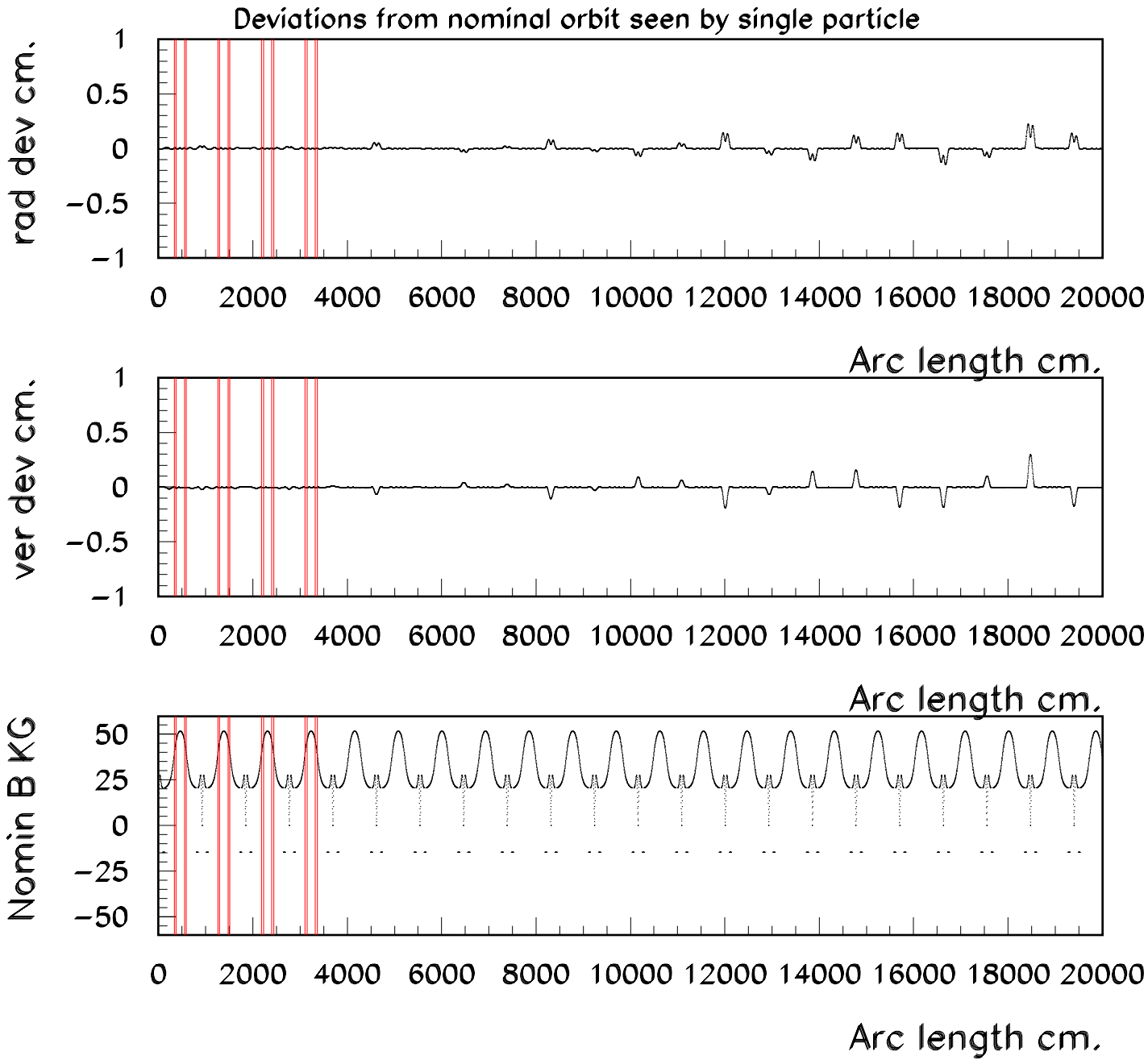

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